

2000



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF: WU-16J

December 15, 2000

James Slutz, Director  
Oil and Gas Division  
Indiana Department of Natural Resources  
402 West Washington Street, Room W293  
Indianapolis, Indiana 46204

Dear Mr. Slutz:

A handwritten signature in cursive script, appearing to be "Jim".

Thank you again for the hospitality extended to us during our visit to your Agency this past August to audit the Indiana Department of Natural Resources' Underground Injection Control Program (UIC) for Class II injection wells. We have received and reviewed your Agency's comments of December 12, 2000 on our draft audit report. We agree with all of your comments and have revised the draft report accordingly. Please find enclosed the final audit report.

We commend and applaud the Indiana Department of Natural Resources, Division of Oil and Gas for having one of the best well-managed and most effective Class II UIC program in the region, and perhaps the Nation. You should be very proud of your accomplishments. I know we are.

I also want to thank you and your staff for your willingness to once again take the lead on planning and organizing our second symposium on Class II injection wells. I have designated John Taylor to be our primary contact person to work with you and your staff in organizing this symposium. Please do not hesitate to call upon me as well if there is anything I can do to ensure we have another successful symposium.

Sincerely yours,

A handwritten signature in cursive script, appearing to be "Valerie J. Jones".

Valerie J. Jones, Chief  
Underground Injection Control Branch

Enclosure

cc: Paul Ehret, Deputy Director, Indiana Department of Natural Resources  
Michael P. Nicholaus, Assistant Director, Division of Oil and Gas  
James AmRhein, Division of Oil and Gas

bcc: Irene Cook  
Lillie Davis  
Dana Rzeznik  
John Taylor  
Harlan Gerrish  
Lisa Perenchio  
Valerie Jones  
*Bruce Kobelski*

**THE INDIANA DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL AND GAS'  
UNDERGROUND INJECTION CONTROL PROGRAM FOR CLASS II WELLS**

**FINAL AUDIT REPORT PREPARED BY U.S. EPA, REGION 5  
UNDERGROUND INJECTION CONTROL BRANCH  
DECEMBER 15, 2000**

**EXECUTIVE SUMMARY**

From August 29 through August 31, 2000, the United States Environmental Protection Agency (U.S. EPA), Region 5, Underground Injection Control (UIC) program review team (Lillie Davis, Valerie Jones, Dana Rzeznik and John Taylor) conducted an in-depth file review of the Indiana Department of Natural Resources (InDNR), Division of Oil and Gas' UIC Program for Class II wells. The InDNR receives a Federal UIC grant for approximately \$118,700 annually to supplement the non-Federal funds of \$120,810 in administering the Class II UIC program. The review team focused on three critical areas as follows: 1) Permitting; 2) Compliance Assurance and Enforcement; and, 3) Program Administration. Region 5 has not conducted an in-depth file review of the InDNR's UIC program since 1995. This in-depth file review, therefore, was being conducted in accordance with the new Region 5 UIC State Oversight Policy that was issued in June 1999. This new policy requires in-depth file reviews at least every 3 years. Accordingly, the next in-depth file review of InDNR's Class II program will occur in Federal Fiscal Year 2003 with occasional visits to InDNR as necessary.

The review team's specific observations and recommendations are discussed in greater detail in this report. However, the review team's preliminary results were discussed on August 31, 2000 during the exit interview with the following InDNR representatives: Paul Ehret, Jim Slutz, Mike Nickolaus, Jim AmRhein, Beth Hernly and Mona Nemecek.

In summary, with the exception of two areas identified by the review team as needing some improvement, Region 5 commends the Indiana Department of Natural Resources for continuing their outstanding performance in implementing an effective Class II UIC program during Federal Fiscal Year 2000 (i.e., October 1, 1999 through September 30, 2000). Specifically, Region 5 sincerely appreciates the full cooperation we have received from InDNR over a number of years and the strong Federal-State partnership that has been established as a result of our working together cooperatively. We especially applaud the InDNR for meeting all grant requirements for Federal Fiscal Year 2000. We are also very pleased with the progress that InDNR has made in promulgating the alternative construction requirements for Class II wells, the temporary abandonment rules, and the spill rules as well as publishing drilling procedures for karst formations in Indiana (i.e., the Mitchell Plain area). We salute your efforts to become a paperless office by developing and implementing the new Virtual Procedures Manual computer based system. Of equal importance, Region 5 commends InDNR for having a strong and effective management team as well as highly competent and dedicated staff who show a sincere commitment to protecting public health and the environment.

The two areas noted by the review team where some improvement could be made to InDNR's Class II UIC program are: 1) changing the timing of InDNR's call-in of wells with overdue mechanical integrity tests (MITs); and, 2) the development of a process to ensure that citizen complaints referred to InDNR by the Indiana Department of Environmental Management (IDEM) regarding alleged contamination of public drinking water wells due to brine disposal wells are tracked and coordinated with IDEM until they are resolved.

## **I. PERMITTING**

### **Observation/Discussion**

Indiana DNR staff provided a list of 27 permits issued since October 1999. Five of these permits were a result of new permit applications and the remaining 22 were permits due for review. From that list, five injection well permits were selected for detailed review. All significant portions of the record from the initial receipt of the permit application to final permit issuance were considered in the file review. The permit process and staff decisions were compared to the Indiana Oil and Gas Rules for consistency. The reviewed records showed professionalism and knowledge on the part of the permits staff. InDNR permit staff efficiently uses the electronic database system in the permitting process. They also have a number of field inspectors that identify noncompliance, witness tests and well completions and plugging, and follow-up on issues previously identified.

### **Recommendation/Conclusion**

The permit audit shows that the InDNR's UIC program is exceptionally well implemented. The permit application review process was thorough and well documented. All permit actions were supported by the documentation provided and the permits and permit conditions were found to be protective of underground sources of drinking water. The permit staff utilized many electronic resources and contacts with sister agencies to issue permits and provide compliance assistance.

## **II. ENFORCEMENT AND COMPLIANCE ASSURANCE**

### **Observation/Discussion**

The review focused on UIC violations that fall in the Significant Non-Compliance (SNC) category. There were 22 enforcement actions taken by the InDNR on such violations since October 1999. Penalties were collected in nine cases, and five cases are still under administrative review. Five files were reviewed in detail and the remaining cases were discussed with InDNR's enforcement staff. While the InDNR does impose penalties for self-reported violations that were corrected within a specified time frame, the amounts of these penalties are considerably reduced, as an incentive to the operator to return to compliance. The enforcement staff effectively utilizes an existing database to track and record milestones in the enforcement process. Files were reviewed to ensure consistency in the enforcement between various facilities as well as adherence to the Penalty Policy. One area noted by the review team for improvement was the calling-in of wells with overdue MITs. The current practice is to call-in wells after the MIT scheduled due date. This results in well owners and operators being in non-compliance with permit conditions until they are reminded to schedule the witnessing of MITs with InDNR. The

review team explained that in direct implementation states where Region 5 administers the UIC program, the responsibility for scheduling MITs and complying with permit conditions resides solely with the well owners/operators. If they failed to schedule MITs by the due dates, then this is a permit violation subject to potential administrative fines and penalties. There were 200 MITs witnessed by InDNR in FFY 00 and while InDNR met their grant requirements, most of these MITs were overdue posing the potential for contamination of underground sources of drinking water.

#### **Recommendation/Conclusion**

The enforcement audit revealed no deficiencies in the implementation of the penalty policy. The enforcement process is well established and easy to follow. It is greatly simplified by the use of the electronic database. During the exit interview, the InDNR informed the review team they were revising their current call-in practices for overdue MITs to address our concerns. Subsequent to our audit visit, the InDNR informed us that this new practice has now been implemented. They are now notifying operators about a month before their wells are overdue for MIT's to ensure that well owners and operators contact field inspectors to schedule the witnessing of the MITs. The InDNR indicated that they are now in their third month of operating under this new practice and things seem to be working out very well. Of all the notification letters they have mailed to operators, approximately 75% of the wells have already been MIT'd and the majority of the remaining wells have been scheduled to be tested by the operators. The follow-up action for failure to complete an MIT is a NOV with penalty. The Region commends the InDNR for its quick and decisive corrective action to address our concerns regarding overdue MITs.

## **II. PROGRAM ADMINISTRATION**

### **A. Virtual Procedures Manual(VPM)/Database Redesign Project**

#### **Observation/Discussion**

In concert with contractor support from the Indiana Geological Survey, the InDNR has developed a Virtual Procedures Manual computer based system which will eventually be loaded on every field inspector's laptop in the very near future. The new system is expected to have both Internet and GIS capabilities. On August 29, the InDNR gave the review team a demonstration of how the Virtual Procedures Manual will work. This new and sophisticated system should enhance even further permitting efficiency while maintaining the integrity of the information processed. It is intended to also serve as a step-by-step training tool for new staff and as a day-to-day refresher tool for experienced staff. Some of the other features of this new system include a category of different types of forms useful in writing and tracking permits. The system can also identify and reference data requirements and calculate cementing and casing requirements for various well types. The database redesign project is being enhanced to track the current Class II inventory of approximately 1388 injection wells. Some additional distinct features of this redesigned system include the ability to list the complete history of each well which includes information on past and current operators/owners, name changes, and well types. InDNR also stated that the redesigned database, when fully operational, will also provide the status of past and ongoing enforcement actions. Finally, the InDNR provided the review team

with a demonstration of an elaborate poster display which they are using in educating the public and others about underground injection well activities, such as construction, operation, monitoring and closure requirements for Class II injection wells.

#### **Recommendation/Conclusion**

We are extremely pleased with the outstanding progress the InDNR has completed with this innovative and interactive computer system. We strongly recommend that the InDNR make a presentation at a future Groundwater Protection Council (GWPC) conference for the benefit of other States that have not yet considered nor begun this transition to a paperless system. We are willing to work with you to arrange such a presentation at the next GWPC Spring conference in March 2001 or during the Fall Conference in September 2001. Please let us know if our assistance would be helpful to you.

### **B. Field Trip to Demonstrate New Global Positioning System Units**

#### **Observation/Discussion**

On August 31, the InDNR and the review team conducted a field trip to a NIPSCO Class II hydrocarbon gas storage facility just outside of Logansport, Indiana in order to demonstrate InDNR's progress in utilizing the global positioning system (GPS) units that had been purchased under a special grant from the Region in 1998. After inspecting one of the injection wells, InDNR demonstrated how useful a GPS Unit (GeoExplorer II) is by using the units to download satellite locational references which can then be refined through a link with a base station in Bloomington, Indiana. The refined data then can be overlain onto topographic, photographic, or other visual media to express relational references. InDNR explained the configuration procedures. A data dictionary with multi-features was created. The information was downloaded from the GPS Unit to the field laptop computer. Some of the features of the system include helping to create an outline map for the State, in degrees, minutes and seconds or other reference systems such as Universal Transverse Mercator (UTM). This system has the capability to measure the distances between wells and from wells to other features in either English or metric units. One can also create overlays of maps that indicate water wells, places within an area by point, line, and polygon, show delineated wetlands, contaminants, as well as note where the orphan wells and active Class II injection wells are located.

#### **Recommendation/Conclusion**

We commend the InDNR for the excellent progress you have made in perfecting usage of the GPS units and implementing your new technology in the field. We hope you are very successful as you roll out your GPS strategy statewide in FFY 2001 with all of your field staff. We sincerely appreciate the field trip you arranged for the review team.

### **C. Orphaned Well Plugging**

#### **Observation/Discussion**

The InDNR stated their backlog is being reduced. In 1991, they had identified 600 wells and now only about 30 wells are on the backlog list. These wells have no owners so the InDNR will plug them via contractor support. Funding sources will come from permit fees and forfeiture of

bonds. Penalty collections are also a source of funding for this program. InDNR indicated that the Indiana State legislature has proposed a "landowner temporary abandoned program." If this program is passed by the State legislature, then \$700,000 over the next two years will become part of the InDNR's operating budget to plug more wells.

#### **Recommendation/Conclusion**

We are encouraged by the progress being made with your orphan well plugging program. Your partnerships with other organizations should help leverage limited funding to plug and abandon the remaining wells and thereby lowering the risk of potential contamination of underground drinking water sources. We hope the InDNR receives the expected additional funding from your State legislature. Please keep us apprised of progress being made in this regards.

#### **D. Citizen Participation Program and Citizen Complaints**

##### **Observation/Discussion**

The InDNR stated they have partnered with some industry associations. Their biggest success story has been with the Southwest Indiana Brine Coalition. Through this partnership, the State indicated they have been able to address and resolve issues in a collaborative manner. During FFY'2000 they had only received six citizen complaints and only one complaint was related to brine disposal wells. When they completed their investigation, they uncovered a leaking line but no groundwater contamination. The review team informed the InDNR that a high ranking official at the Indiana Department of Environmental Management (IDEM) had recently expressed concern to the review team that citizen complaints which they had referred to them were not being investigated and resolved. These complaints, according to IDEM, are related to the contamination of public drinking water wells from temporarily abandoned saltwater disposal wells. The IDEM stated their process is to first refer complaints to the Indiana Health Department for investigation since the InDNR is not responsible for private drinking water well complaints. However, the more recent citizen complaints are for public drinking water wells which do fall under the InDNR's jurisdiction. The InDNR responded that they were aware of various complaints that had been coordinated with IDEM on a staff to staff level and perhaps the person from IDEM who made the comment was not aware of their ongoing coordination efforts.

##### **Recommendation/Conclusion**

We commend your outstanding efforts in working cooperatively with local partners to address and resolve drinking water issues affecting the public. We invite you to share a write-up with us regarding the success story you have made with the Southwest Indiana Brine Coalition. We frequently provide our Regional Administrator and Water Division Director with reports that highlight success stories and we would like to include yours. Regarding the concerns raised by the IDEM, there appears to be a communication breakdown. We encourage the InDNR to evaluate the current practices and develop a process to ensure that citizen complaints are tracked and coordinated with IDEM. Please keep us apprised of your progress in this regards.

**E. Quality Assurance Management Plan (QMP)**

**Observation/Discussion**

InDNR pointed out that they had used the Region 5 UIC Branch's draft QMP as a model for developing their QMP. After some discussion of why so much emphasis was being placed by the Region on development of approvable QMPs, we agreed to follow-up with InDNR after discussing the matter further with the Regional Quality Assurance Team.

**Recommendation/Conclusion:**

Formal regional review comments on the QMP were sent to InDNR and on September 26, 2000, the Region received InDNR's revised QMP. The formal approval of the InDNR's QMP by the Water Division Director occurred on October 17, 2000. We commend and congratulate the InDNR, Division of Oil and Gas for being the first and only UIC primacy agency in Region 5 to have an approved QMP.

**F. UIC Primacy Program Update Package**

**Observation/Discussion**

The InDNR provided us with a copy of their recently promulgated temporary abandonment (TA) rules that are currently in effect. These rules will be reviewed by Region 5's attorneys and incorporated in the 147 update package. The Attorney General statement and Memorandum of Agreement are current and will also be reviewed by the Region 5's attorneys. We also noted that we have a list of aquifer exemptions that are currently in effect in Indiana. This statement prompted the InDNR to ask if aquifer exemptions could be requested and granted on a "field" basis rather than on a "well-by-well" basis. The review team agreed to follow-up on this question and let the InDNR know if this was possible.

**Recommendation/Conclusion**

Region 5 is pleased with the progress you have made on updating your primacy package. We will keep you informed of our attorney's review of your package and if there are any needed changes, we will work with you to address them. Assuming there are no further changes needed, the next step in the process would be to forward the complete package to our Office of Groundwater and Drinking Water in EPA Headquarters. If there are no major changes needed as a result of their review, then Region 5 will proceed to public notice the package in the Federal Register and hold a public meeting to receive any comments. Assuming all goes well and we receive no significant adverse public comments, the entire process should be completed by the end of FFY 2001. Finally, regarding InDNR's question on requesting "field" aquifer exemptions, such requests have been granted previously in Region 5.

**G. Current and Emerging Issues**

**1. Hydraulic Fracturing in Coal Bed Methane Operations**

**Observation/Discussion**

The review team discussed the current status of the lawsuit that was filed by the Legal



Environmental Assistance Foundation (LEAF) against the State of Alabama's UIC program for Class II wells regarding the practice of hydraulic fracturing in coal bed methane operations. In that suit, the U.S. Court of Appeals for the Eleventh Circuit determined that the definition of underground injection under the Safe Drinking Water Act's UIC provisions was broad enough to include hydraulic fracturing of coal bed methane wells. The court remanded the matter back to U.S. EPA for re-examination of the UIC provisions and the practice of hydraulic fracturing in coal bed methane operations. The InDNR indicated they were aware of the ongoing case and that the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission have filed an amicus brief in the case. The InDNR stated they have not filed a brief nor entered into the litigation although Indiana is concerned about the LEAF case and the potential that additional regulatory requirements may be imposed without significant environmental benefits. There are 23 reported coal bed methane wells in Indiana.

#### **Recommendation/Conclusion**

Region 5 has no recommendation other than to continue to closely monitor the final outcome of this case as the implications have far-reaching impacts to more wells than just the coal bed methane wells.

### **2. Wetland Restoration Project**

#### **Observation/Discussion**

InDNR indicated they had successfully plugged several saltwater disposal wells that had caused some significant environmental damage to a wetland area. However, the cost for restoring this wetland area was being absorbed by the InDNR's Division of Oil and Gas and they were uncertain if the Federal UIC grant funds could be used to assist in this wetland restoration efforts although the damage came from brine disposal wells. The review team indicated that UIC funds could not be used for the wetland restoration effort. However, application could be made by InDNR for Federal funds under Section 319 of the Clean Water Act for this type of wetland restoration project. Mr. Kevin Pierard, Chief of the Region 5 Watershed and Non-Point Source Program Branch is the appropriate person whom you should contact to discuss this further.

#### **Recommendation/Conclusion**

We applaud your efforts to take the initiative in restoring this wetland back to its original environmental conditions. However, as discussed during the review, the usage of Federal UIC grant funds for this activity is not allowable since this is not an underground injection activity. We encourage you to contact Mr. Kevin Pierard to apply for funds.

### **3. Class II Injection Well Training Symposium**

#### **Observation/Discussion**

The InDNR indicated the openhole well logging course that was sponsored by Region 5 UIC Branch on May 2-4, 2000 proved very helpful to several InDNR staff who attended. This led to further discussion on the need to repeat the highly successful Class II Well Training Symposium that was held in Terre Haute, Indiana in 1998. The InDNR took the lead in organizing that symposium and indicated to the review team that they would be willing to do this again. We

agreed to a tentative timeframe of May 2001 and to work together to organize this symposium.

**Recommendation/Conclusion**

We are pleased that the InDNR is willing to take the lead again in organizing the Class II Well Training Symposium. Region 5 stands ready to assist you and will be working closely with you in the upcoming months on this. The most critical item that need to be addressed now is to secure a suitable location for the training. Please let us know what your inquiries yield in this regards.

**4. Form 7520 Revisions and Government Performance Results Act (GPRA)**

**Observation/Discussion**

The review team briefly discussed the recent management changes in the EPA Headquarter's Office of Ground Water and Drinking Water and due to these new management changes, a new direction is now being taken at the National EPA program level to fully integrate the UIC program, Source Water Assessment and Protection program, and Drinking Water Program under one umbrella in the draft National Source Water Contamination Prevention Strategy (July 2000). The InDNR indicated they were not aware of, nor had they seen this draft strategy. The review team agreed to send them a copy. The review team indicated no significant progress was being made now by the National Workgroup on the proposed revisions to the Federal Form Series 7520. The review team indicated, however, that the workgroup was leaning towards development of a separate form for each well type and a separate form for reporting enforcement activities and well inventory information. It was indicated that much of the driving force behind revising Form 7520 is to help gather additional information so the EPA Regions and Primacy States could better report environmental results as required by the Government Performance and Results Act (GPRA) of 1995. This Act requires all Federal agencies to report progress toward targets in a format which is easy to understand. The Act commits the U.S. EPA to achieve certain goals by the year 2005, with measurable progress each year. There are ten major GPRA goals under which U.S. EPA's work falls. The UIC program largely falls under two of these ten goals: providing clean and safe water (Goal #2) and providing a credible deterrent to non-compliance (Goal #9).

**Recommendation/Conclusion:**

We will keep you informed of progress being made with the draft strategy, 7520 form revisions, and GPRA. Under separate cover, we have provided you with a copy of the draft strategy and more information on GPRA.